MAT 137 (Calculus II) Prof. Swift

Quiz 7, Power Series   Name: _____

For this quiz, you *may* work with other people. You may *not* consult your notes or the internet. You may leave the class after you turn in your quiz.

Recall that every power series centered at 0 has a radius of convergence R, such that the power series converges absolutely if $|x| < R$ and the power series diverges if $|x| > R$.

Suppose a power series centered at 0 converges at $x = 3$ and diverges at $x = -5$.

1. Does this power series converge at $x = 1$? Yes, No, Maybe (circle one.)

2. Does this power series converge at $x = 4$? Yes, No, Maybe (circle one.)

3. Does this power series converge at $x = 6$? Yes, No, Maybe (circle one.)

4. Find the first 4 terms in the power series representation of $f(x) = \dfrac{2}{1 + 3x}$. You do not need to simplify your answer. Write a complete sentence for full credit.